



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,818	08/17/2001	Sung-Won Lee	678-731 (P9922)	3308
28249	7590	05/26/2006	EXAMINER	
DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. UNIONDALE, NY 11553			AHMED, SALMAN	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,818

Applicant(s)

LEE ET AL.

Examiner

Salman Ahmed

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/10/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 and 24-27 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-27 are pending.

Claims 1-10, 15-23 are rejected.

Claims 11-14 and 24-27 are allowable.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 6, 15 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Manning et al. (US PAT 6580699), hereinafter referred to as Manning.

In regards to claims 1, 6, 15 and 20 a method for storing dormant state information (column 2 line 3, packet data call status Information) of mobile stations in a dormant state (column 5, line 55, the dormant MS 26) where no packet data is exchanged with an external packet network, in a centralized database (column 3 lines 2-3, Visitor's Location Register (VLR)) connected to a packet data switch (column 3 lines 2-3, a Mobile Service Center (MSC)), and updating the dormant state information (figure 3 element 32, Location Update Request) stored in the centralized database (column 3 lines 2-3, Visitor's Location Register (VLR)) in association with the mobile

Art Unit: 2616

station (figure 3, element 26, MS) when the mobile station in the dormant state moves to a target BSC (figure 3, element 18, BS-N) adjacent to a source BSC (figure 3, element 16, BS-0) in a wireless packet data system including a packet data switch node (PDSN) (figure 3, element 10, PDSN) for connecting the external packet network to the mobile stations through the packet data switch and the source BSC connected to the packet data switch, the method comprising the steps of:

receiving from the mobile station at the target BSC a location registration message (figure 3, element 32, Registration Message) when the mobile station moves to the target BSC (figure 3, element 18, BS-N) adjacent to the source BSC (figure 3, element 16, BS-0);

upon receipt of the location registration message, transmitting from the target BSC (figure 3, element 18, BS-N) to the centralized database (column 3 lines 2-3, Visitor's Location Register (VLR)) a location update message (figure 3 element 32, Location Update Request) for updating a location of the mobile station;

upon receipt of the location update message, updating by the centralized database the dormant state information for the mobile station so as to connect the target BSC to the source BSC is anticipated by (column 2 lines 7-12) the steps of during registration process of the MS 26, once a Location Update Request is received from the MS 26, the MSC/VLR 22 can check (as in claim 6) whether the MS 26 is in a PPP session and whether the MS 26 is moving to a new BSC but within the same packet zone. If so, the R-P connection can be switched over.

Transmitting from the centralized database to the target BSC a location update result (as in claim 6) message (figure 3 element 34, Location update response) indicating complete update of the dormant state information is anticipated by (figure 3 element 34, Location update response and column 2 lines 13-14) the MSC/VLR 22 informing the new BSC to establish the R-P connection with the PDSN 10.

In regards to claims 6, 20 upon receipt of the search result message, transmitting from the target BSC to the source BSC, a packet call connection message (figure 7 element 132, A7 Packet Routing Request) for requesting reconnection of the packet call and thus connecting the source BSC to the target BSC through the packet data switch is anticipated by (figure 7 elements 130-136 and column 6 lines 40-43) the steps 132, 134, and 136, the BS-N 18 and the BS-O 16 establish the packet routing connection through messages such as an A7 Packet Routing Request, an A3 Packet Routing Connection Setup, and an A7 Packet Routing Ack.

In regards to claims 15, 20 upon receipt of the location update message, transmitting from the centralized database to the PDSN a location information update request message (Figure 3 element 38, A8 R_P Connection Request) for requesting designation of the target BSC as a source BSC; upon receipt of the location information update request message, designating by the PDSN the target BSC as a new source BSC and transmitting an acknowledge message (Figure 3 element 40, A8 R_P Connection Request Ack) to the centralized database is anticipated by (column 2, lines 24-26) the steps of upon determining that a new R-P connection is needed, the PDSN 10 establishes the new R-P connection with the new BSC.

In regards to claim 20, upon receipt of the search result message, connecting by the target BSC the mobile station to the PDSN through the packet data switch based on the dormant state information included in the search result message is anticipated by (figure 6, element 112, and column 6 lines 6-9) the step 112, the MS 26 can start to transmit packet data through packet data services provided by the new R-P connection between the MS 26 and the PDSN 10.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2, 3, 7, 8, 16, 17, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manning in view of Warrier et al. (US PAT 6707809), hereinafter referred to as Warrier.

In regards to claims 2, 7, 16, 21 Manning teaches dormant state information as described in the rejections of claims 1, 6, 15 and 20 above.

Manning does not explicitly teach dormant state information includes an identifier of the mobile station, location information of the mobile station, a last registration time of the mobile station, and a source BSC ID of the mobile station.

Warriar et al. in the same field of endeavor teaches idle mobility binding record database (dormant state information) that includes IMSI number of mobile (identifier of the mobile station), mobility binding records (location information of mobile station, a last registration time of mobile station and a source BSC ID of mobile station) (refer column 7, lines 19-50 and column 10, lines 10-27 of Warriar et al.).

At the time invention was made it would have been obvious to one in ordinary skill in art to add to the system/method of Manning, a dormant state information related mobility binding record database as taught by Warriar. One in ordinary skill in art would have been motivated to do this to uniquely identify mobile node in an idle mobility binding data-base (refer column 7, lines 30-35 of Warriar).

In regards to claims 3, 8, 17 and 22 Manning teaches dormant state information includes identifiers (column 4 lines 61-63, Cell_ID) for connections used to exchange packet data of the mobile station in the dormant state, a temporary identifier (column 4 lines 61-63, session_ID) assigned to the mobile station, a service option (column 2

lines 3-6, point to point protocol (PPP) session status information) and service configuration (column 2 lines 3-6, configuration information about BSCs).

6. Claims 4, 5, 9, 10, 18, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manning in view of Le et al. (US PAT 6556820), hereinafter referred to as Le.

In regards to claims 4, 5, 9, 10, 18, 19 and 23 Manning teaches sending location update message as described in the rejections of claims 1, 6, 15 and 20 above.

Manning does not explicitly teach location update message includes an identifier of the mobile station, and location information which is a target BSC identifier (as in claims 5, 10, 19) of the mobile station.

Le in the same field of endeavor teaches update message includes an identifier of the mobile station (column 9, lines 4-20, IMSI), and location information which is a target BSC identifier of the mobile station (column 9, lines 4-20, LAI).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Manning's system/method by incorporating IMSI and LAI in location update message as taught by Le. The motivation is that (as suggested by Le, column 9, lines 4-20) in GSM the mobile can initiate a location update either on its own or on command from the network (periodic location update). The location areas are identified by a location area identification (LAI). FIG. 6 illustrates the format of the LAI 600. The LAI 600 is similar in content to the IMSI, except that the LAI 600 identifies a cell or a group of cells. The LAI 600 plays a role in handoff operations. When a mobile

station roams into another cell, if it is in the same LAI 600, no information is exchanged with any external network. Each cell within a location area has its own identity known as cell identity (CI). Thus, an LAI 600 and a CI uniquely identify each cell in the network. LAI's structure is similar to that of IMSI in that it has an MCC 610, MNC 612, and LAC (locations are code) 614.

Allowable Subject Matter

7. Claims 11-14, 24-27 are allowable.

Response to Arguments

8. Applicant's arguments, see pages 2 and 3 of the Remarks section, filed 5/10/2006, with respect to the rejection of claims 1-10 and 15-23 have been fully considered and are not persuasive.

In regards to claims 1, 15, 16 and 20 the Applicant argues that (page 2 paragraph 3) Manning reference does not anticipate updating the DS information so as to connect the target BSC to the source BSC. However, examiner respectfully disagrees with this assertion. Manning teaches (column 2 lines 7-12) the steps of during registration process of the MS 26, once a Location Update Request is received from the MS 26, the MSC/VLR 22 can check whether the MS 26 is in a PPP session and whether the MS 26 is moving to a new BSC but within the same packet zone. If so, the R-P connection can be switched over. To further clarify, in column 2 lines 13-18, Manning further states the MSC/VLR 22 will inform the new BSC to establish the R-P connection with the PDSN 10. An R-P connection is maintained between the old BSC

and the PDSN 10 during a registration process while a routing connection is made between the old BSC and the new BSC.

Applicant argues (page 2 paragraph 4) Manning fails to disclose updating the dormant state information corresponding to the changes of the mobile station in the dormant state. However, examiner respectfully disagrees with this assertion. Manning teaches updating the dormant state (PPP session status) information corresponding to the changes of the mobile station in the dormant state (column 3 lines 60-62 and column 5 lines 20-27, the MSC/VLR 22 stores the call status information including information for PPP session status and configuration information for existing BSCs, cells, and PDSNs. At step 72, during a mobile registration process, the MS 26 uses a Register message to send information about a PPP session status, including current PDSN 10 information, to the BS-N 18. At steps 74-76, having the information about the PDSN 10 on hand, the BS-N 18 communicates with the MSC/VLR 22 to update the location of the MS 26).

Applicant argues (page 3 paragraph 2) Warriar fails to cure the stated deficiencies of Manning as to the rejection of Claims 2-3, 7-8, 16-17 and 21-22, and Le fails to cure the stated deficiencies of Manning as to the rejection of Claims 4-5, 9-10, 18-19 and 23. However, Examiner respectfully disagrees with the assertion for the reasons stated above.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2616

SA
05/19/2006



HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600